



UNITED STATES PATENT AND TRADEMARK OFFICE

cm
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/678,125

10/06/2003

Tatsuhiko Fukuzawa

50195-390

1090

7590 01/03/2008
McDERMOTT, WILL & EMERY
600 13th Street, N.W.
Washington, DC 20005-3096

EXAMINER

ECHELMAYER, ALIX ELIZABETH

ART UNIT	PAPER NUMBER
----------	--------------

1795

MAIL DATE	DELIVERY MODE
-----------	---------------

01/03/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.		Applicant(s)	
	10/678,125		FUKUZAWA ET AL.	
	Examiner		Art Unit	
	Alix Elizabeth Echelmeyer		1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4 and 7-16 is/are pending in the application.
- 4a) Of the above claim(s) 9-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,7 and 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/ are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>9/17/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This Office Action is in response to the amendment filed October 29, 2007.

Claims 1 and 4 have been amended. Claims 5 and 6 have been cancelled. Claims 9-16 were previously withdrawn. Claims 1, 3, 4, 7 and 8 are pending and are rejected finally for the reasons given below.

Claim Rejections - 35 USC § 112

2. The rejection of claim 1 is withdrawn in light of the amendment.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3, 4, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohsaki et al. (US Patent 5,856,043) in view of Abraham et al. (US 5,766,796).

Ohsaki et al. teach a non-aqueous secondary battery having a carbon fiber anode and a cathode made of a lithium-containing complex oxide (abstract).

Ohsaki et al. teach that the anode capacity is preferably 1.05-1.4 times that of the cathode, which results in a battery having improved safety by preventing overcharging

that leads to electrolyte decomposition and reduces the cycle life of the battery (column 1 lines 62-67; column 2 lines 1-2; column 8 lines 63-67; column 9 lines 1-7).

Ohsaki et al. fail to teach that the anode is made of a lithium titanate material and that the cathode is a spinel lithium manganate.

Abraham et al. teach a bipolar rechargeable battery (abstract, Figure 1). The anode is made of lithium titanate and the cathode is made of spinel lithium manganate (abstract).

With regard to claim 3, it is seen in Figure 1 of Abraham et al. that one layer of the battery is formed by the cathode, and one is formed by the anode. Further, the judging of the state of charge of the battery is inherently made since the material properties of the electrodes result in the related characteristics such as completion voltage.

As for claim 7, Abraham et al. teach a solid polymer electrolyte (abstract).

Regarding claim 8, a plurality of the batteries taught by Abraham et al. can be seen in Figure 1 – and the batteries are separated by a bipolar plate (column 4 lines 20-21).

Abraham et al. teach that the lithium materials used in the anode and cathode, with a polymer electrolyte, are desirable because they are capable of potential above

1V, as compared to carbon anodes, since their surfaces do not form a passivation film (column 2 lines 54-65).

It would be desirable to create the battery of Ohsaki et al. with the materials taught by Abraham et al., since the electrodes would have a higher potential since their surfaces would not form passivation films. Further, it would be desirable to provide a plurality of batteries such as taught by Abraham et al. since it would result in either higher voltage or higher current.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to create the battery of Ohsaki et al. with the materials taught by Abraham et al., since the electrodes would have a higher potential since their surfaces would not form passivation films. It also would have been obvious to one having ordinary skill in the art to provide a plurality of batteries to provide either higher voltage or higher current.

Response to Arguments

5. Applicant's arguments have been considered but are moot in view of the new ground of rejection, see above.

Applicant argues, on pages 12-14, that the 102 rejection over Abraham et al. does not meet the newly added limitation that the anode capacity be 120% or more of the cathode capacity. This is true, but the rejection has been withdrawn in light of the amendment. The new rejection addresses the new limitations.

Page 14 includes, in the middle of the page, about Funayama et al. and limitations to a granular thin magnetic film and magnetic component. The examiner believes that this statement was mistakenly included in this application, and is not considering the argument.

Applicant further argues the combination of Abraham et al. in view of Ohsaki et al. for the limitations concerning the capacity of the anode in relation to the capacity of the cathode. Essentially, Applicant argues that, since the material used for the anode of Ohsaki et al. is not the same as the material for the anode of Abraham et al., the combination of the two references is not valid.

The examiner does not believe that the references need to teach the same materials to be valid. The important teaching of Ohsaki et al. is that the capacity of the anode is greater than the capacity of the cathode because such a configuration increases the safety of the battery. However, a new rejection has been made in light of the amendments to the claims. The Abraham et al. in view of Ohsaki et al. rejection was withdrawn, see above.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alix Elizabeth Echelmeyer whose telephone number is 571-272-1101. The examiner can normally be reached on Mon-Fri 7-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Susy N. Tsang-Foster can be reached on 571-272-1293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


Application/Control Number:
10/678,125
Art Unit: 1795

Page 7

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Alix Elizabeth Echelmeyer
Examiner
Art Unit 1795

aee


SUSY TSANG-FOSTER
SUPERVISORY PATENT EXAMINER